

REMARKS

Introductory Comments

As of the mailing date of the 12/10/2009 Office Action, claims 1, 4-10, 13-15, 17, 18, and 21 were pending in the present application. In the present Response, no claims have been canceled, amended, or added, so claims 1, 4-10, 13-15, 17, 18, and 21 remain for consideration upon entry of the present Response. Reconsideration and allowance of the claims is respectfully requested in view of the following remarks.

Anticipation or Obviousness Rejections over Lindsay

Claims 1, 5-10, 13-15, 18, and 21 stand rejected under 35 U.S.C. § 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Lindsay et al. (6824650). 12/10/2009 Office Action, page 3, paragraph no. 4. Applicants respectfully traverse this rejection.

U.S. Patent No. 6,824,650 to Lindsay et al. (hereinafter “Lindsay”) generally describes textile materials, including paper webs, treated with a polyvinylamine polymer and a second agent that interacts with the polyvinylamine polymer. Lindsay abstract. The second agent added with the polyvinylamine polymer can be, for instance, a polymeric anionic reactive compound or a polymeric aldehyde-functional compound. *Id.* When incorporated into a paper web, the combination of the polyvinylamine polymer and the second agent provide improved strength properties, such as wet strength properties. *Id.*

Applicants respectfully assert that claims 1, 5-10, 13-15, 18, and 21 are neither anticipated by nor rendered obvious over Lindsay because the present claims exclude Lindsay’s required polyvinylamine polymer.

Anticipation requires that all of the limitations of the claim be found within a single prior art reference. *Scripps Clinic & Research Foundation v. Genentech, Inc.*, 927 F.2d 1565, 1576 (Fed. Cir. 1991).

For an obviousness rejection to be proper, the Examiner must meet the burden of establishing a *prima facie* case of obviousness. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). Establishing a *prima facie* case of obviousness requires that all limitations of the claim be taught or suggested by the prior art. *See, e.g., CFMT, Inc. v. Yieldup Intern. Corp.*, 349 F.3d 1333, 1342 (Fed. Cir. 2003); *In re Royka*, 490 F.2d 981, 985 (C.C.P.A. 1974).

Applicants' independent claims 1 and 18 as previously presented include the limitation,

wherein the reacted cationic strength agent or the reacted nonionic strength agent is selected from the group consisting of cationic glyoxalated polyacrylamides, nonionic glyoxalated polyacrylamides, polymeric amine-epichlorohydrin resins, polyethyleneimines, melamine formaldehydes, urea formaldehydes, dialdehyde starches, glyoxal, and mixtures thereof.

Independent claim 21 includes the similar limitation,

wherein the strength agent is selected from the group consisting of cationic glyoxalated polyacrylamides, nonionic glyoxalated polyacrylamides, polymeric amine-epichlorohydrin resins, polyethyleneimines, melamine formaldehydes, urea formaldehydes, dialdehyde starches, glyoxal, and mixtures thereof.

Note, in particular, that the “vinyl amine copolymers” previously recited in these Markush group limitations was deleted in Applicants’ 08/10/2009 Amendment. Lindsay does not teach Applicants’ strength agent because Lindsay requires “polyvinylamine polymer”, a strength agent that is not recited in and therefore excluded from Applicants’ strength agent Markush groups.

Applicants previously made essentially the same argument in their 08/10/2009 Amendment. The present Office Action characterizes that argument as unpersuasive, stating, in relevant part,

Applicant argues on pp 6-8 that the current claims exclude the polyvinylamine of Lindsay et al. They do not. The claims require a reacted nonionic or cationic strength agent selected from the Markush grouping

listed but do not exclude another strength agent such as the polyvinylamine of Lindsay et al from being used along with the claimed strength agent.

12/10/2009 Office Action, page 2, last paragraph. Applicants respectfully disagree with the Office's assertion that Lindsay's polyvinylamine polymer is not excluded from Applicants' independent claims. It is well established that use of "consisting of" in the body of a claim limits the corresponding element. MPEP 2111.03 ("When the phrase 'consists of' appears in a clause of the body of a claim, rather than immediately following the preamble, it limits only the element set forth in that clause; other elements are not excluded from the claim as a whole.") (emphasis added). To argue, as the Office does, that the use of "consisting of" in the claim 1 and 21 strength agent Markush groups does not exclude unrecited strength agents is to improperly vitiate a clear limitation on those elements. While it is true that "other elements are not excluded from the claim as a whole" (MPEP 2111.03), Lindsay's polyvinylamine polymer cannot be an "other element" because it is clearly defined as a strength agent in the present application and therefore clearly excluded by its deletion from the reacted strength agent Markush groups.

In short, Lindsay requires polyvinylamine polymer and therefore does not teach or suggest a bathroom tissue or facial tissue incorporating a reacted strength agent that excludes polyvinylamine. Lindsay therefore fails to anticipate or render obvious independent claims 1, 18, and 21. Claims 5-10, 13-15 are also not anticipated by and not obvious over Lindsay because they each depend ultimately from and further limit claim 1. Applicants therefore respectfully request the reconsideration and withdrawal of the rejection of claims 1, 5-10, 13-15, 18, and 21 under 35 U.S.C. § 102(e) or 35 U.S.C. 103(a) over Lindsay.

Obviousness Rejections over Lindsay + Drelich

Claims 4 and 17 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Lindsay in view of Drelich et al. (3865775). 12/10/2009 Office Action, page 6, paragraph no. 5. Applicants respectfully traverse this rejection.

Lindsay is described above.

Drelich generally describes a resin binder composition comprising: (1) a synthetic resin; (2) a water-soluble, polymeric, carboxylic thickener; and (3) a metal ammine complex coordination compound capable of releasing ions of said metal to control the total migration of the resin binder during its deposition on a fibrous web. Drelich abstract. Drelich is cited for

teach[ing] that well known printed bonding patterns applied to flushable fibrous webs include interconnecting or interlocking grids comprising straight or wavy lines extending transversely or diagonally across the webs and additionally, if desired, along the web (Abs; col 2, lines 24-30 and 42-46; col. 17, lines 15-18).

12/10/2009 Office Action, page 6, third paragraph.

Claims 4 and 17 each depend directly from and further limit claim 1. As described above, claim 1 is patentable over Lindsay because claim 1 defines the reacted strength agent in a way that excludes Lindsay's required "polyvinylamine polymer". Claims 4 and 17 are therefore patentable over Lindsay. Adding Drelich, which is cited as teaching particular printed bonding patterns, does not remedy the deficiencies of Lindsay. Accordingly, Lindsay and Drelich do not collectively support a *prima facie* case of obviousness against claims 4 and 17. Applicants therefore respectfully request the reconsideration and withdrawal of the rejection of claims 4 and 17 under 35 U.S.C. § 103(a) over Lindsay in view of Drelich.

Obviousness Rejections Over Sheppard + Champaigne + Lindsay + Chen '679 + Oriaran + Drelich

Claims 1, 4-6, 9, 10, 13-15, 17, 18 and 21 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Sheppard et al. (3702610) in view of Champaigne Jr. et al. (3616797) and further in view of Lindsay and even further in view of Chen et al. (6261679) and Oriaran et al. (6017418), as evidenced by Drelich. 12/10/2009 Office Action, page 6, paragraph no. 6. Applicants respectfully traverse this rejection.

Lindsay and Drelich are described above.

U.S. Patent No. 3,702,610 to Sheppard et al. (hereinafter “Sheppard”) generally describes a means for indicating when a wrapper for a sanitary napkin or diaper is in condition for flushing away after it is dropped in a toilet for disposal. Sheppard abstract. Sheppard’s water-dispersible adhesive is preferably a polyvinyl alcohol, it can also be another water-soluble adhesive “including such materials as polyvinyl methylether, glycol cellulose, cellulose glycolate, methyl cellulose and the like”. Sheppard, column 3, lines 47-53.

U.S. Patent No. 3,616,797 to Champaigne Jr. et al. (hereinafter “Champaigne”) is similar to Sheppard in that it generally relates to sanitary napkins and diapers. Champaigne abstract. Champaigne describes a flushable wrapper for such products. *Id.* The wrapper comprises a non-woven fiber web bonded by a water-soluble adhesive and overprinted with another binder comprising a spaced pattern of water-insoluble adhesive. *Id.* Champaigne’s preferred water-soluble adhesive is polyvinyl alcohol, with “polyvinyl methyl ether, glycol cellulose, cellulose glycolate, methyl cellulose and the like” being taught as less preferred alternatives. Champaigne, column 4, lines 24-27. Champaigne teaches as water-insoluble adhesives polyvinyl chlorides, copolymers of vinyl chlorides with other vinyl resins (optionally plasticized with organic sebacates, adipates, or phthalates), polyolefins, polyamides, cellulose acetates and acrylates, and elastomeric latices including natural rubbers, butadiene styrenes, butadiene acrylonitriles, and combinations thereof. Champaigne, column 4, lines 28-42.

U.S. Patent No. 6,261,679 to Chen et al. (hereinafter “Chen ‘679”) generally describes a fibrous absorbent structure that is wet stable and has large void volume with a density below the critical density of the fiber employed. Chen abstract. The wet-stable, high void volume fibrous absorbent can be used in a disposable product intended for the absorption of fluid such as body fluid, including extensible absorbent articles. *Id.* Chen’s fibrous absorbent structure can include a “wet strength agent” that can be a “permanent wet strength agent” (i.e., “water soluble, cationic oligomeric or polymeric resins that are capable of either crosslinking with themselves (homocrosslinking) or with

the cellulose or other constituent of the wood fiber") or a "temporary wet strength resin" (e.g. modified starches, derivatized starches, and temporary wet strength resins described in U.S. Patent Nos. 3,556,932 to Coscia et al., 3,556,933 to Williams et al., and 4,981,557 and 5,008,344, and 5,085,736 to Bjorkquist).

Oriaran generally describes hydrophilic, humectant, soft, pliant, single-ply or multiply absorbent papers in the form of napkin, towel, bathroom tissue or facial tissue.

Oriaran abstract. In the present Office Action, Oriaran is cited for

disclos[ing] single- or multi-ply fibrous absorbent paper products in the form of napkin, towel, bathroom tissue or facial tissue (Abs). As a bathroom tissue, the paper product is inherently water dispersible. Oriaran et al discloses many of the claimed polymers for use as temporary wet strength agents (Abs; col 16, lines 35-44; col 18, lines 15-26).

12/10/2009 Office Action, page 10, first full paragraph. Oriaran's temporary wet strength agents include

aliphatic and aromatic dialdehydes including glyoxal, malonic dialdehyde, succinic dialdehyde, glutaraldehyde, dialdehyde starches, polymeric reaction products of monomers or polymer having aldehyde groups and optionally nitrogen groups. Representative nitrogen containing polymers which can suitably be reacted with the aldehyde containing monomers and polymers include vinyl-amides, acrylamides and related nitrogen containing polymers. These polymers impart a positive charge to the aldehyde containing reaction product.

Oriaran, column 16, lines 35-44.

As an initial matter, Applicants respectfully note that the materials of Sheppard and Champaigne are not analogous to the materials of Chen and Oriaran. The Office Action states, "The art of Sheppard et al, Champaigne Jr. et al, Lindsay et al, Chen et al ('679), Orarian et al and the instant invention is analogous as pertaining to water-dispersible tissue products". 12/10/2009 Office Action, page 10, second full paragraph (emphasis added). While the materials of all four references do share the property of being water dispersible, Applicants respectfully assert that the Office's statement is, at best, misleading because Applicants have been unable to find the word

“tissue” in Sheppard or Champaigne. The Sheppard and Champaigne materials are wrappers, the purpose of which is to protect the absorbent pads that they enclose. The Sheppard and Champaigne wrappers only contact human skin to the extent that they are handled by human hands for the purpose of opening them and disposing of them. In contrast, the materials of Chen and Oriaran are absorbent fibrous structures intended for absorbent uses including feminine care pads, tampons, diapers, incontinence articles, training pants, bed pads, sweat absorbing pads, shoe pads, bandages, helmet liners, wipes, tissues (including bathroom tissue), towels, and napkins. See, e.g., Chen, column 2, lines 43-49; Oriaran abstract. Thus, the Chen and Oriaran materials are intended for contact with intimate surfaces of the human body. The wrapper materials of Sheppard and Champaigne are therefore not analogous to the absorbent materials of Chen and Oriaran.

Applicants respectfully assert that claims 1, 4-6, 9, 10, 13-15, 17, 18 and 21 are patentable over Sheppard in view of Champaigne, Lindsay, Chen ‘679, and Oriaran as evidenced by Drelich because the “adhesives” of Sheppard and Champaigne are chemically and functionally distinct from the “wet strength agents” of Chen and Oriaran, and a skilled person would not have substituted the temporary wet strength agents of Chen and Oriaran for the adhesives of Sheppard and Champaigne.

The Supreme Court has recently reaffirmed the principle that “a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the art”. *KSR Int’l. Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1741 (2007). The Court further stated that “it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does”. *Id.* Furthermore, *KSR* did not disturb the longstanding principle that “a prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984).” MPEP 2141.02 (emphasis in original). Finally, *KSR* has not changed the fact that the language of section 103 forbids obviousness arguments based on hindsight. *See, e.g., Ortho-McNeil Pharmaceutical, Inc. v. Mylan Laboratories, Inc.*, 520 F.3d 1358, 1364 (Fed. Cir. 2008).

Applicants respectfully assert that the Office has failed to establish the chemical or functional equivalence of the Sheppard and Champaigne “adhesives” and the Chen and Oriaran “wet strength agents”, so there is no plausible reason of record for a skilled person to have made the proposed substitution of the Chen and Oriaran “wet strength agents” for the Sheppard and Champaigne “adhesives”.

Applicants’ independent claims 1 and 18 require that “the reacted cationic strength agent or the reacted nonionic strength agent is selected from the group consisting of cationic glyoxalated polyacrylamides, nonionic glyoxalated polyacrylamides, polymeric amine-epichlorohydrin resins, polyethyleneimines, melamine formaldehydes, urea formaldehydes, dialdehyde starches, glyoxal, and mixtures thereof”. Independent claim 21 similarly requires that “the strength agent is selected from the group consisting of cationic glyoxalated polyacrylamides, nonionic glyoxalated polyacrylamides, polymeric amine-epichlorohydrin resins, polyethyleneimines, melamine formaldehydes, urea formaldehydes, dialdehyde starches, glyoxal, and mixtures thereof.” The Office acknowledges that Sheppard does not teach this limitation. 12/10/2009 Office Action, page 9, first paragraph. The office action points to Chen and Oriaran as teaching some of Applicants’ strength agents. 12/10/2009 Office Action, page 9 last paragraph to page 10 first full paragraph. And the office action argues that “[i]t would further have been obvious to use the temporary wet strength agents taught by Chen et al or Oriaran et al as the water soluble binders and the permanent wet strength agents as the overprinted permanent strength binders in the embodiment taught by Sheppard et al and Champaigne Jr. et al.”. 12/10/2009 Office Action, page 11, first paragraph. Applicants respectfully disagree.

With respect to the proposed substitution of the Chen and Oriaran temporary wet strength agents for the Sheppard and Champaigne water-soluble binder, Applicants respectfully note that the Chen and Oriaran temporary wet strength agents are not functionally or chemically equivalent to the Sheppard and Champaigne water-soluble binder. Whereas the Sheppard and Champaigne water-soluble binder functions to hold dye in a visible pattern on the wrapper then rapidly disperse the dye on contact with water, the Chen wet strength agents are “used to immobilize the bonds between the fibers

in the wet state" (Chen, column 39, lines 27-28) and the Oriaran temporary wet strength agents are used in one-ply napkins to "allow[] the product to hold up in use despite its relatively low level of dry strength" (Oriaran, column 16, lines 22-24). Moreover, the Office has not established that there is any overlap between the specific polymers disclosed by Sheppard and Champaigne as water-soluble binders and the specific polymers disclosed by Chen and Oriaran as wet strength agents. In short, the Chen and Oriaran temporary wet strength agents are neither functionally equivalent nor chemically equivalent to Sheppard's water-soluble binders, so there is no reason for a skilled person to have made the proposed substitution.

With respect to the proposed substitution of the Chen and Oriaran permanent wet strength agents for the Sheppard and Champaigne water-insoluble binder, Applicants respectfully note that the Office has failed to establish that these components are either functionally or chemically equivalent. Regarding function, the Sheppard and Champaigne water-insoluble binder is overprinted in a pattern that "permit[s] the web to be broken up into small pieces or patches approximating the size of a postage stamp, i.e. up to about 1" by 2" in dimension, upon subjecting the bonded web to the dissolving action of excess water". Champaigne, column 1, line 69 to column 2, line 3. In contrast, the Chen permanent wet strength agents "provide a product that retains more than 50% of its original wet strength after exposure to water for a period of at least five minutes". Chen, column 39, lines 54-57. (Oriaran mentions permanent wet strength agents without describing their function. Oriaran, column 3, line 40; column 5, line 43; column 6, line 16; column 14, lines 59-60; claim 64.) Regarding chemical structure, the Office has not established that there is any overlap between the specific polymers disclosed by Sheppard and Champaigne as water-insoluble binders and the specific polymers disclosed by Chen as permanent wet strength agents. (Oriaran does not appear to disclose any specific permanent wet strength agents.) In short, the Office has not established either the functional or chemical equivalence of the Chen and Oriaran permanent wet strength agents and the Sheppard and Champaigne water-insoluble binders. So, there is no reason for a skilled person to have substituted the Chen and Oriaran permanent wet strength agents for the Sheppard and Champaigne water-insoluble binders.

To summarize, the Office has failed to establish a plausible reason for a skilled person to have made the proposed substitution of the Chen and Oriaran “wet strength agents” for the Sheppard and Champaigne “adhesives”. Absent such a reason, it is only with knowledge of the present invention and impermissible hindsight that the Office can suggest the proposed modification. For this reason alone, a *prima facie* case of obviousness has not been established.

Applicants therefore respectfully request the reconsideration and withdrawal of the rejection of claims 1, 4-6, 9, 10, 13-15, 17, 18, and 21 under 35 U.S.C. § 103(a) over Sheppard, Champaigne, Lindsay, Chen ‘679, and Oriaran, as evidenced by Drelich.

Obviousness Rejections Over Sheppard + Champaigne + Lindsay + Chen ‘679 + Oriaran + Srinivasan

Claims 6 and 14 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Sheppard in view of Champaigne, Lindsay, Chen ‘679, and Oriaran, as used in the rejection of claims 1, 4-6, 9, 10, 13-15, 17, 18 and 21 above, and further in view of Srinivasan et al. (3913579). 12/10/2009 Office Action, page 12, paragraph no. 7. Applicants respectfully traverse this rejection.

Sheppard, Champaigne, Lindsay, Chen ‘679, and Oriaran are described above.

U.S. Patent No. 3,913,579 to Srinivasan et al. (hereinafter “Srinivasan”) generally describes a sanitary napkin that includes a flushable absorbent pad and an extremely flushable nonwoven fibrous cover that is bonded with a totally water-soluble resinous binder. Srinivasan abstract. Srinivasan is cited as disclosing application of hot melt adhesive to the inside of the nonwoven fibrous cover of a flushable absorbent pad. 12/10/2009 Office Action, page 12, last paragraph.

Applicants respectfully assert that claims 6 and 14 are patentable over Sheppard, Champaigne, Lindsay, Chen ‘679, Oriaran, and Srinivasan for the reasons described above in the context of the rejection of claim 1 over Sheppard, Champaigne, Lindsay, Chen ‘679, Oriaran, and Drelich.

Claims 6 and 14 each depend ultimately from and further limit claim 1. As described above, claim 1 is patentable over Sheppard, Champaigne, Lindsay, Chen '679, Oriaran, and Drelich because the Office has failed to establish a plausible reason for a skilled person to have made the proposed substitution of the Chen and Oriaran "wet strength agents" for the Sheppard and Champaigne "adhesives". Claims 6 and 14 are therefore patentable over Sheppard, Champaigne, Lindsay, Chen '679, and Oriaran. The addition of Srinivasan, which is cited as disclosing application of hot melt adhesive to the inside of the cover of a flushable absorbent pad, does not cure the deficiencies of the other references. Accordingly, the cited references do not support a *prima facie* case of obviousness against claims 6 and 14. Applicants therefore respectfully request the reconsideration and withdrawal of the rejection of claims 6 and 14 under 35 U.S.C. § 103(a) over Sheppard, Champaigne, Lindsay, Chen '679, Oriaran, and Srinivasan.

Obviousness Rejections Over Sheppard + Champaigne + Lindsay + Chen '679 + Oriaran + Sun

Claims 7 and 8 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Sheppard in view of Champaigne, Lindsay, Chen '679, and Oriaran as used in the rejection of claims 1, 4-6, 9, 10, 13-15, 17, 18 and 21 above, and further in view of Sun et al. (6322665). 12/10/2009 Office Action, page 13, paragraph no. 8. Applicants respectfully traverse this rejection.

Sheppard, Champaigne, Lindsay, Chen '679, and Oriaran are described above.

U.S. Patent No. 6,322,665 to Sun et al. (hereinafter "Sun") generally describes methods for making high wet performance webs, the methods including applying polymeric anionic reactive compound heterogeneously to a cellulosic fibrous web followed by curing of the compound to crosslink the cellulose fibers. Sun abstract. Sun is cited as teaching a paper web that can be slit or apertured. 12/10/2009 Office Action, page 14, first paragraph.

Applicants respectfully assert that claims 7 and 8 are patentable over Sheppard, Champaigne, Lindsay, Chen '679, Oriaran, and Sun for the reasons described above in

the context of the rejection of claim 1 over Sheppard, Champaigne, Lindsay, Chen ‘679, Oriaran, and Drelich.

Claims 7 and 8 each depend ultimately from and further limit claim 1. As described above, claim 1 is patentable over Sheppard, Champaigne, Lindsay, Chen ‘679, Oriaran, and Drelich because the Office has failed to establish a plausible reason for a skilled person to have made the proposed substitution of the Chen and Oriaran “wet strength agents” for the Sheppard and Champaigne “adhesives”. Claims 7 and 8 are therefore patentable over Sheppard, Champaigne, Lindsay, Chen ‘679, and Oriaran. The addition of Sun, which is cited for teaching a paper web that can be slit or apertured, does not cure the deficiencies of the other references. Accordingly, the cited references do not support a *prima facie* case of obviousness against claims 7 and 8. Applicants therefore respectfully request the reconsideration and withdrawal of the rejection of claims 7 and 8 under 35 U.S.C. § 103(a) over Sheppard, Champaigne, Lindsay, Chen ‘679, Oriaran, and Sun.

It is believed that the foregoing amendments and remarks fully comply with the Office Action and that the claims herein should now be allowable to Applicants. Accordingly, reconsideration and allowance is respectfully requested.

It is believed that all the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130 maintained by Applicants' Attorneys.

Respectfully submitted,

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